1-1 Adjustments

1-1-1 General Alignment Instructions

Usually, a color TV needs only slight touch-up adjustment upon installation. Check the basic characteristics such as vertical size, horizontal size, and focus. Observe the picture and check for good black and white details. There must be no objectionable color shading: If color shading is present, demagnetize the receiver. If color shading persists, re-do purity and convergence adjustments.

Note :

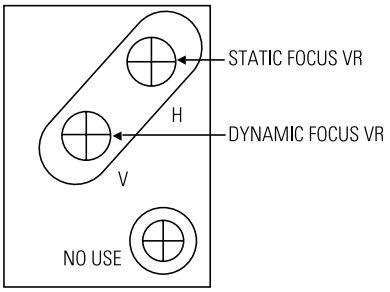
1. This '4. Alignment and Adjustments' applies to K55A chassis applications.
2. AC Power Supply: 160~300V or 100~240V, 50Hz
3. This service manual has been written on the basis of domestic remote-control model adopting K55A chassis. Depending on sales location and product specifications, some of specifications herein may be changed.

1-1-2 Focus Adjustment

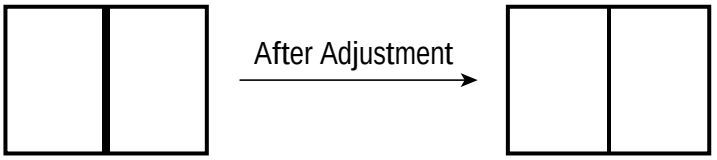
K55A contains a dynamic focus circuit. When CRT PCB, FBT or CRT is replaced, be sure to adjust in the following sequence:

Dynamic Focus Adjustment

1. Input a crosshatch pattern.
2. Select "Standard" from the menu,
3. Turn the Static Focus VR clockwise to set it to its maximum.
4. Turn the Dynamic Focus VR counterclockwise to set it to its maximum.
5. Turn the Static Focus VR counterclockwise slowly for the clearest center vertical line.



<FBT FOCUS PACK>



6. Turn the Dynamic Focus VR clockwise slowly for the clearest third line.

7. Check for the FOCUS of entire screen. If necessary, re-do adjustments 3~6.

1-1-3 Screen Voltage Adjustment

1. Input a Toshiba pattern.

2. Use an oscilloscope to identify RK, BK, GK. And then adjust FBT Screen VR so that the voltage of pedestal level doesn't exceed 160V.
   If a Toshiba pattern is not available, cancel the blue screen and input "No Signal" to AV IN so the voltage of pedestal level doesn't exceed 175V.
   If an oscilloscope is not available, use a DC multi-meter in No Signal (black screen) to adjust RK, BK, GK so that the highest voltage becomes 160Vp-p.

1-1-4 White Balance Adjustment

1. Warm up the TV set for at least 30 minutes.

2. Enter the Service Mode by pressing the remote control keys in the following sequence:
   Power Off → Display → Menu → Mute → Power On

3. Initialize all set data.

4. Input a Toshiba pattern.

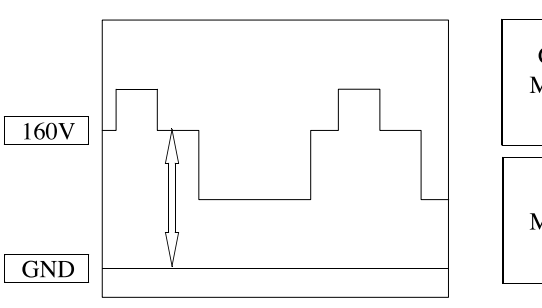
5. Using a probe(CA100), do the White Balance adjustments.

   (1) Adjust Low-Light.
   - Adjust Sub Brightness to set Y.
   - Adjust B Cutoff to set y.
   - Adjust R Cutoff to set x.

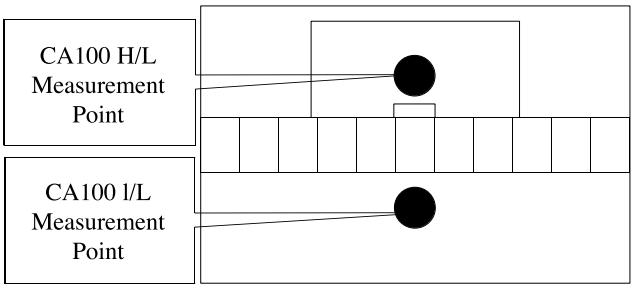
   (2) Adjust High-Light.
   - Adjust Sub Contrast to set Y.
   - Adjust B Drive to set y.
   - Adjust R Drive to set x.

   (3) Check the value of Low-Light. If necessary, readjust Low-Light.

   (4) Check the value of High-Light. If necessary, readjust High-Light.15



Adjust Method the Screen Voltage for Toshiba Pattern by Oscilloscope



Measurement Point in Toshiba Pattern

1-1-5 When adjusting Screen Voltage and White Balance

1. Screen Voltage and White Balance are related each other. Make sure both adjustments are correct.

2. Adjust Screen Voltage before White Balance Adjustments. Make sure Screen Voltage is correct.

3. If White Balance has been readjusted, re-check Screen Voltage.

4. After adjustments are complete, check the following.
   - If spots appear on the screen after pressing the Power On / Off key, readjust Screen Voltage.
   - If flyback lines appear on the screen, readjust Screen Voltage.

1-2 MICOM PORT

<table>
<tr><th>PIN</th><th>FUNCTION</th><th>FIRST STATE</th><th>ASSIGNMENT</th></tr>
<tr><td>1</td><td>W-PORT</td><td>HIGH</td><td>RESET Control jack during E²PROM latch UP(Function:Low)SERIAL H</td></tr>
<tr><td>2</td><td>ROM SDA</td><td>SERIAL H</td><td>E²PROM only SDA LINE</td></tr>
<tr><td>3</td><td>ROM SCL</td><td>SERIAL H</td><td>E²PROM only SDA LINE</td></tr>
<tr><td>4</td><td>BUS-STOP</td><td>HIGH</td><td>Automation and after-sales service related BUS STOP(STOP : LOW)</td></tr>
<tr><td>5</td><td>MAIN SDA</td><td>SERIAL H</td><td>CXA2165 /CXA2151Q/VSP940X/BA7654F/MSP34XX/TUNER Control jack</td></tr>
<tr><td>6</td><td>MAIN SCL</td><td>SERIAL H</td><td>CXA2165 /CXA2151Q/VSP940X/BA7654F/MSP34XX/TUNER Control jack</td></tr>
<tr><td>7</td><td>S-RESET</td><td>HIGH</td><td>Reset when MSP34XX IC(SOUND PROCESS IC)has an error(Active : LOW)</td></tr>
<tr><td>8</td><td>V-RESET</td><td>HIGH</td><td>Reset when VSP940X IC(1-chip IC)has an error</td></tr>
<tr><td>9</td><td>VDD 2.5V</td><td>HIGH</td><td></td></tr>
<tr><td>10</td><td>GND</td><td></td><td>Analog GND</td></tr>
<tr><td>11</td><td>VDD3.3V</td><td>HIGH</td><td></td></tr>
<tr><td>12</td><td>CVBS IN</td><td>IV p-p</td><td>TTX and USA Caption Input source line(1V p-p)</td></tr>
<tr><td>13</td><td>VDD2.5V</td><td>HIGH</td><td></td></tr>
<tr><td>14</td><td>GND</td><td></td><td></td></tr>
<tr><td>15</td><td>AFT</td><td></td><td>Main AFT Control jack(0 ~ 3.3V)</td></tr>
<tr><td>16</td><td>SC1-ID</td><td></td><td rowspan="2"><table><tr><th rowspan="2"></th><th rowspan="2">TV MODE</th><th colspan="2">AV MODE</th></tr><tr><th>16 : 9 MODE</th><th>4 : 3 MODE</th></tr><tr><td>RANGE</td><td>0 ~ 2V</td><td>4.5 ~ 7V</td><td>9.5 ~ 12V</td></tr></table></td></tr>
<tr><td>17</td><td>SC2-ID</td><td></td></tr>
<tr><td>18</td><td>KEY-1</td><td>HIGH</td><td><table><tr><th>16 : 9 MODE</th><th>MEMU</th><th>VOL-</th><th>VOL+</th><th>CH-</th><th>CH+</th></tr><tr><td>0 ~ 2V</td><td>0~0.1V</td><td>0.1~0.7V</td><td>07~13V</td><td>1.3~1.9V</td><td>0.9~2.4V</td></tr></table></td></tr>
<tr><td>19</td><td>H-SYNC</td><td>POSITIVE</td><td>MICOM “H-SYNC” Input, POSITIVE Input(3.3V p-p)</td></tr>
<tr><td>20</td><td>V-SYNC</td><td>POSITIVE</td><td>MICOM “V-SYNC” Input, POSITIVE Input(3.3V p-p)</td></tr>
<tr><td>21</td><td>KEY-3</td><td>HIGH</td><td>OPEN</td></tr>
<tr><td>22</td><td>KEY-2</td><td>HIGH</td><td>TV/VIDEO switching control jack</td></tr>
<tr><td>23</td><td>X-RAY</td><td>HIGH</td><td>Function : LOW</td></tr>
<tr><td>24</td><td>IR-IN</td><td></td><td>Remote Control Input Jack</td></tr>
<tr><td>25</td><td>STD-LED</td><td>HIGH</td><td>STAND BY : Hight, OFF : LOW</td></tr>
<tr><td>26</td><td>TIM-LED</td><td>LOW</td><td>TIME ON : H TIME OFF : L</td></tr>
<tr><td>27</td><td>RELAY</td><td></td><td>DEGAUSSIGN COIL CONTROL:Based on standard specifications</td></tr>
<tr><td>28</td><td>SW1</td><td>HIGH</td><td>H : IN1, L : IN2(BA7657F) PIN(#16) Control jack</td></tr>
<tr><td>29</td><td>GND</td><td></td><td></td></tr>
<tr><td>30</td><td>VDD 3.3V</td><td>HIGH</td><td></td></tr>
<tr><td>33</td><td>RESET</td><td>LOW</td><td></td></tr>
<tr><td>34</td><td>X-IN</td><td></td><td>Reset active : HIGH</td></tr>
<tr><td>35</td><td>X-OUT</td><td></td><td>Crystal oscillation input jack</td></tr>
</table>

<table>
<tr><th>PIN</th><th>FUNCTION</th><th>FIRST STATE</th><th>ASSIGNMENT</th></tr>
<tr><td>36</td><td>GND</td><td></td><td></td></tr>
<tr><td>37</td><td>VDD 2.5V</td><td>HIGH</td><td></td></tr>
<tr><td>38</td><td>OSD-R</td><td>1.2V p-p</td><td>OSD R-OUT Output jack (0.38V p-p), half tone : 0.9V p-p</td></tr>
<tr><td>39</td><td>OSD-G</td><td>1.2V p-p</td><td>OSD G-OUT Output jack (0.38V p-p), half tone : 0.9V p-p</td></tr>
<tr><td>40</td><td>OSD-B</td><td>1.2V p-p</td><td>OSD B-OUT Output jack (0.38V p-p), half tone : 0.9V p-p</td></tr>
<tr><td>41</td><td>CPRE</td><td>0.9V p-p</td><td>OSD F/B-OUT Output jack (Clamped at STAND PULSE, Half Tone : LOW)</td></tr>
<tr><td>42</td><td>VDD 2.5V</td><td>HIGH</td><td></td></tr>
<tr><td>43</td><td>GND</td><td></td><td></td></tr>
<tr><td>44</td><td>VDD 3.3V</td><td>HIGH</td><td></td></tr>
<tr><td>45</td><td>PX, Y</td><td>HIGH</td><td></td></tr>
<tr><td>46</td><td>PX, Y</td><td>HIGH</td><td></td></tr>
<tr><td>47</td><td>SW3</td><td>H</td><td rowspan="2"><table><tr><th>F1</th><th>F0</th><th>fH</th></tr><tr><td>L</td><td>M</td><td>1.75KHz (480i/480P)</td></tr><tr><td>M</td><td>L</td><td>33.75KHz (1080i)</td></tr></table>LOW : GNDHIGH : OPEN STATUS
Initially, these pins select an input source at LOW state</td></tr>
<tr><td>48</td><td>SW2</td><td>L</td></tr>
<tr><td>49</td><td>S-MUTE</td><td></td><td>System (NTSC/PAL) MUST be separated</td></tr>
<tr><td>50</td><td>POWER</td><td></td><td>Active “LOW”</td></tr>
<tr><td>51</td><td>H,P-ID</td><td></td><td>1080i control jack : 1080i (LOW), RF (Hight)</td></tr>
<tr><td>52</td><td>TILT</td><td>HIGH</td><td>Magnetic field control</td></tr>
</table>

1-3 Factory Adjustment

1-3-1 Factory Adjustment values

SERVICE

Deflection
Video Adjust1
Video Adjust2
Video Adjust3
Option
YC Delay
EEPROM
Reset

1-3-2 Factory Data

DEFLECTION : PAL

CIS W/B Angular

H/L:265/275 45FT(+,-3) L/L:270/290 1.5(+,- 0.2FT)

ITEMS	CIS			EUROPE			REMARK
	29”	32”	34"	29"	28"	32”	
V-AMP	28	25	25	28	33	22	Vertical AMP adj(Gain Control)
V-SHIFT	22	25	25	22	25	26	Vertical Position adj (DC bias adj)
H-EW	35	35	25	35	20	27	Horizontal AMP adj(Gain Control)
H-SHIFT	26	25	30	26	25	31	Horizontal Position adj (DC bias adj)
V-LIN	7	9	9	7	6	7	Vertical Linearity adj(TOP/Bottom adj)
UP-LIN(Fix)	9	9	9	9	7	3	Vertical Linearity adj(TOP adj)
LOW-LIN(Fix)	3	3	2	3	4	0	Vertical Linearity adj(Bottom adj)
V-SC(Fix)	4	1	3	4	3	0	Vertical S correction adj
H-PAR	23	20	35	23	19	22	Horizontal pin distortion adj
UP-COR	22	25	40	22	39	38	Horizontal pin distortion up adj
LOW-COR	35	30	40	35	41	37	Horizontal pin distortion low adj
H-TRA	40	40	25	40	27	34	Horizontal Trapezium distortion adj
BOW	32	32	32	32	30	33	Vertical line slope adj(parabola)
ANGLE	32	30	30	32	28	31	Vertical Linearity adj(sawtooth)
V-POSI(Fix)	40	40	40	40	40	40	V-POSITION ADJ as to CRT INCH

MIDDLE ASIA/AFRICA W/B Angular

H/L:265/275 45FT(+,-3FT) L/L:260/270 1.5FT(+,- 0.2FT)

EAST ASIA W/B Angular

H/L:265/270 50FT(+,-3FT) L/L:265/265 1.5FT(+,- 0.2FT)

ITEMS	MIDDLE ASIA/AFRICA						EAST ASIA			REMARK
	RCA MODEL			SCART MODEL						
	29”	32”	34"	29"	32"	34”	29"	32"	34”	
V-AMP	28	25	25	28	25	25	28	25	25	Vertical AMP adj(Gain Control)
V-SHIFT	22	25	25	22	25	25	22	25	25	Vertical Position adj (DC bias adj)
H-EW	35	35	25	35	35	25	35	35	25	Horizontal AMP adj(Gain Control)
H-SHIFT	26	25	30	26	25	30	26	25	30	Horizontal Position adj (DC bias adj)
V-LIN	7	9	9	7	9	9	7	9	9	Vertical Linearity adj(TOP/Bottom adj)
UP-LIN(Fix)	9	9	9	9	9	9	9	9	9	Vertical Linearity adj(TOP adj)
LOW-LIN(Fix)	3	3	2	3	3	2	3	3	2	Vertical Linearity adj(Bottom adj)
V-SC(Fix)	4	1	3	4	1	3	4	1	3	Vertical S correction adj
H-PAR	23	20	35	23	20	35	23	20	35	Horizontal pin distortion adj
UP-COR	22	25	40	22	25	40	22	25	40	Horizontal pin distortion up adj
LOW-COR	35	30	40	35	30	40	35	30	40	Horizontal pin distortion low adj
H-TRA	40	40	25	40	40	25	40	40	25	Horizontal Trapezium distortion adj
BOW	32	32	32	32	32	32	32	32	32	Vertical line slope adj(parabola)
ANGLE	32	30	30	32	30	30	32	30	30	Vertical Linearity adj(sawtooth)
V-POSI(Fix)	40	40	40	40	40	40	40	40	40	V-POSITION ADJ as to CRT INCH

DEFLECTION : NTSC

CIS W/B Angular

H/L:265/275 45(+,-5)FT L/L:270/290 1.5(+,- 0.3FT)

ITEMS	CIS			EUROPE			REMARK
	29”	32”	34"	29"	28"	32”	
V-AMP	-2	2	2	-2	1	0	Vertical AMP adj(Gain Control)
V-SHIFT	2	-2	-2	2	1	1	Vertical Position adj (DC bias adj)
H-EW	3	1	1	3	0	1	Horizontal AMP adj(Gain Control)
H-SHIFT	5	6	6	5	4	4	Horizontal Position adj (DC bias adj)
V-LIN	2	-4	-4	2	0	0	Vertical Linearity adj(TOP/Bottom adj)
UP-LIN(Fix)	1	-1	-1	1	1	0	Vertical Linearity adj(TOP adj)
LOW-LIN(Fix)	-1	3	3	-1	1	1	Vertical Linearity adj(Bottom adj)
V-SC(Fix)	0	0	0	0	0	0	Vertical S correction adj
H-PAR	-1	4	1	-1	4	3	Horizontal pin distortion adj
UP-COR	-3	10	1	-3	3	1	Horizontal pin distortion up adj
LOW-COR	-2	0	-1	-2	4	0	Horizontal pin distortion low adj
H-TRA	-4	3	-1	-4	2	-4	Horizontal Trapezium distortion adj
BOW	-2	0	0	-2	2	0	Vertical line slope adj(parabola)
ANGLE	-1	1	-1	-1	3	0	Vertical Linearity adj(sawtooth)
V-POSI(Fix)	0	0	0	0	0	0	V-POSITION ADJ as to CRT INCH

MIDDLE ASIA/AFRICA W/B Angular

H/L:265/275 45FT(+,-3FT) L/L:260/270 1.5FT(+,- 0.2FT)

EAST ASIA W/B Angular

H/L:265/270 50FT(+,-3FT) L/L:265/265 1.5FT(+,- 0.2FT)

ITEMS	MIDDLE ASIA/AFRICA						EAST ASIA			REMARK
	RCA MODEL			SCART MODEL						
	29”	32”	34"	29"	28"	32”	29"	28"	32”	
V-AMP	-2	2	2	-2	1	0	-2	1	0	Vertical AMP adj(Gain Control)
V-SHIFT	2	-2	-2	2	1	1	2	1	1	Vertical Position adj (DC bias adj)
H-EW	3	1	1	3	0	1	3	0	1	Horizontal AMP adj(Gain Control)
H-SHIFT	5	6	6	5	4	4	5	4	4	Horizontal Position adj (DC bias adj)
V-LIN	2	-4	-4	2	0	0	2	0	0	Vertical Linearity adj(TOP/Bottom adj)
UP-LIN(Fix)	1	-1	-1	1	1	0	1	1	0	Vertical Linearity adj(TOP adj)
LOW-LIN(Fix)	-1	3	3	-1	1	1	-1	1	1	Vertical Linearity adj(Bottom adj)
V-SC(Fix)	0	0	0	0	0	0	0	0	0	Vertical S correction adj
H-PAR	-1	4	1	-1	4	3	-1	4	3	Horizontal pin distortion adj
UP-COR	-3	10	1	-3	3	1	-3	3	1	Horizontal pin distortion up adj
LOW-COR	-2	0	-1	-2	4	0	-2	4	0	Horizontal pin distortion low adj
H-TRA	-4	3	-1	-4	2	-4	-4	2	-4	Horizontal Trapezium distortion adj
BOW	-2	0	0	-2	2	0	-2	2	0	Vertical line slope adj(parabola)
ANGLE	-1	1	-1	-1	3	0	-1	3	0	Vertical Linearity adj(sawtooth)
V-POSI(Fix)	0	0	0	0	0	0	0	0	0	V-POSITION ADJ as to CRT INCH

ITEMS	CIS			EUROPE			MIDDLE ASIA/AFRICA						EAST ASIA			REMARK
							RCA MODEL			SCART MODEL			RCA MODEL			
	29"	32"	34"	29"	28"	32"	29"	32"	34"	29"	32"	34"	29"	32"	34"	
R-Cutoff	34	32	32	25	25	32	34	34	34	34	34	34	34	34	34	R-cutoff control adj
G-Cutoff	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	G-cutoff control adj
B-Cutoff	26	32	32	25	25	34	26	26	26	26	26	26	26	26	26	B-cutoff control adj
Color on/off	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Initial Value : "0"--> 1
CR offset	30	32	32	31	31	32	30	30	30	30	30	30	30	30	30	DC-offset canceling
CB offset	30	32	32	30	30	32	30	30	30	30	30	30	30	30	30	DC-offset canceling
R-Drive	37	32	32	37	37	40	37	37	37	37	37	37	37	37	37	R-Drive control adj
G-Drive	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	G-Drive control adj
B-Drive	29	32	32	32	32	38	29	29	29	29	29	29	29	29	29	B-Drive control adj
Sub-Bright	37	30	30	40	19	40	37	30	30	37	30	30	37	30	30	Sub-Bright control
Sub-Contrast	4	7	7	7	7	9	4	4	4	4	4	4	4	4	4	Sub-Contrast control
Sub-Color	15	15	15	15	15	15	18	15	15	18	15	15	10	10	10	color gain control(PAL SETTING AGAIN)
Sub-Tint	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	HUE control
CTI-Level	2	2	2	1	1	1	2	2	2	2	2	2	2	2	2	Chrominance Transient Improvement
COL AXIS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	color detection axis setting(NTSC/USA)
LTI-Level	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Luminance Transient Improvement
VSU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	vertical osd position
Merody Volume	7	7	7	7	4	7	7	7	7	7	7	7	7	7	7	Volume gain control

Video Adjust 2

ITEMS	CIS			EUROPE			MIDDLE ASIA/AFRICA						EAST ASIA			REMARK
							RCA MODEL			SCART MODEL			RCA MODEL			
	29"	34"	32"	29"	28"	32"	29"	32"	34"	29"	32"	34"	29"	32"	34"	
ABL Mode	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	picture/bright ABL gain control(PAL SETTING AGAIN)
Gamma	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	RGB output correction control(PAL SETTING AGAIN)
DPIC Level	2	3	3	2	3	3	2	3	3	2	3	3	2	3	3	Dynamic picture black expansion control (PAL SETTING AGAIN)
DC Trans	2	3	3	2	3	3	2	3	3	2	3	3	2	3	3	Y-System DC transmission ratio(PAL SETTING AGAIN)
ABL-TH	14	14	15	14	14	14	14	14	14	14	14	14	14	14	14	Threshold voltage adj ABL-IN(PAL SETTING AGAIN)
VM-Level	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	VM-OUT Level control
VM-Coring	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	VM-OUT coring control
VM-f0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	VM-f0 control
VM-Limit	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	VM-Limit level control
VM-Delay	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	VM-OUT phase control(reference to R-OUT)
SHP CD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Sharpness gain control(color satuation)
SHP f0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Sharpness f0 control (3Mhz)
SHP f1&p/o	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	Sharpness gain control(PAL SETTING AGAIN)
AKB Time	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	AKB Bch reference pulse time control (PAL SETTING AGAIN)
Peaking9402	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	VSP9402 Band/High pass filter(Peaking)

Video Adjust 3

ITEMS	CIS			EUROPE			REMARK
	29"	32"	34"	29"	28"	32"	
H comp	7	8	4	7	7	6	H-EHT compensation setting(PAL SETTING AGAIN)
V comp	4	5	4	4	4	4	V-EHT compensation setting(PAL SETTING AGAIN)
PIN comp	2	2	7	2	2	2	PIN-EHT compensation setting (PAL SETTING AGAIN)
AFC comp	0	0	0	0	0	0	AFC-EHT compensation
sync phase	0	0	0	0	0	0	WHEN USED 74HC123
NR Off Value	6	6	6	6	6	6	Not used

MIDDLE ASIA/AFRICA & EAST ASIA

ITEMS	MIDDLE ASIA/AFRICA						EAST ASIA			REMARK
	RCA MODEL			SCART MODEL			RCA MODEL			
	29"	32"	34"	29"	33"	34"	29"	33"	34"	
H comp	4	8	4	4	8	4	4	8	4	H-EHT compensation setting(PAL SETTING AGAIN)
V comp	4	5	4	4	5	4	4	5	4	V-EHT compensation setting(PAL SETTING AGAIN)
PIN comp	2	2	2	2	2	2	2	2	2	PIN-EHT compensation setting (PAL SETTING AGAIN)
AFC comp	0	0	0	0	0	0	0	0	0	AFC-EHT compensation
sync phase	0	0	0	0	0	0	0	0	0	WHEN USED 74HC123
NR Off Value	6	6	6	6	6	6	6	6	6	Not used

Option Byte

CIS MODEL

ITEMS	CIS			EUROPE			REMARK
	29"	32"	34"	29"	28"	32"	
Language	CIS			NON			CIS/ARAB
SOUND	V-DOLBY			V-DOLBY			V-DOLBY/A2-NICAM
CRT	4:3	WIDE	4:3	4:3	WIDE	WIDE	4:3,WIDE
AV JACK	SCART			SCART+S			SCART(CIS,EUROPE)/RCA(ASIA,AUSTRAILIA)
AUTO FM	ON			ON			ON/OFF
TXT LANGUAGE	RUSSIAN			WEST-EUROPE			RUSSIAN/GREEK-TURKEY/ARABIC/FARSI/ ARAB-HEBREW/WEST EUROPE/EAST
LNA	ON			OFF			EUROPE
HIGH DEVIATION	OFF			NON			ON/OFF(1 TUNER)
TTX ON OFF	NON			NON			OFF/ON(INDIA)
AV BY CH KEY	OFF			OFF			OFF/ON
AGC	OFF			OFF			OFF/ON
WOOFER	OFF			OFF			OFF/ON
TTX LIST PRI	NON			NON			OFF/ON
SPEAKER	NON			DOME SPK			
TTX TOP	NON			OFF			
HELP	NON			OFF			
TILT	ON			NON			

MIDDLE ASIA/AFRICA & EAST ASIA

ITEMS	MIDDLE ASIA/AFRICA						EAST ASIA			REMARK
	RCA MODEL			SCART MODEL			RCA MODEL			
	29"	32"	34"	29"	32"	34"	29"	32"	34"	
Language	Arab/Persia			Arab/Persia			NON			CIS/ARAB
SOUND	V-DOLBY			V-DOLBY			V-DOLBY			V-DOLBY/A2-NICAM
CRT	4:3	WIDE	4:3	4:3	WIDE	4:3	4:3	WIDE	4:3	4:3,WIDE
AV JACK	RCA			SCART			RCA			SCART(CIS,EUROPE)/RCA(ASIA,AUSTRAILIA)
AUTO FM	ON			ON			ON			ON/OFF
TXT LANGUAGE	OPTION			OPTION			OPTION			RUSSIAN/GREEK-TURKEY/ARABIC/FARSI/ARAB-HEBREW/WEST EUROPE/EAST EUROPE
	ARABIC			ARABIC			WEST EUROPE			ENGLISH/ARABIC/FRENCH
	FARSI			FARSI						IRAN ENGLISH/FARSI/FRENCH
	GREEK-TURKEY			GREEK-TURKEY						TURKEY ENGLISH/TURKEY/GREEK/FRENCH/SKANDINAVIAN/GERMAN/SPAINSH/ITALIAN
	ARAB-HEBREW			ARAB-HEBREW						ISRAEL ARABIC/HEBREW
LNA	OFF			OFF			OFF			OFF/ON(1 TUNER)
HIGH DEVIATION	OFF			OFF			OFF			OFF/ON(INDIA)
TTX ON OFF	NON			NON			ON			OFF/ON
AV BY CH KEY	OFF			OFF			OFF			OFF/ON
AGC	OFF			OFF			OFF			OFF/ON
WOOFER	OFF			OFF			OFF			OFF/ON Newzealand Australia ->ON
TTX LIST PRI	NON			NON			OFF			OFF/ON
SPEAKER	NON			NON			NON			
TTX TOP	NON			NON			NON			
HELP	NON			NON			NON			
TILT	NON			NON			NON			It requests an Europe NORMAL CRT use.
6TH REMOCON	ON			ON			ON			TM76 use ON

YC Delay

ITEMS	CIS			EUROPE			REMARK
	29"	32"	34"	29"	28"	32"	
P.YC(AV) DELAY	-9	-9	-9	-9	-9	-7	
S.YC(AV) DELAY	-4	-13	-13	-4	-4	-8	
N.YC(AV) DELAY	-8	-8	-8	-8	-8	-7	
P.BG.YC DELAY	-9	-9	-9	-7	-7	-7	
P.DK.YC DELAY	-10	-10	-10	-9	-8	-9	
P.I.YC DELAY	-11	-11	-11	-8	-9	-8	
P.M.YC DELAY	-9	-9	-9	NON	NON	NON	
P.L.YC DELAY	-9	-9	-9	-9	-9	-9	
S.BG.YC DELAY	-10	-10	-10	-6	-6	-7	
S.DK.YC DELAY	-13	-13	-13	-12	-12	-11	
S.I.YC DELAY	-10	-10	-10	-10	-10	-10	
S.M.YC DELAY	-10	-10	-10	NON	NON	NON	
S.L.YC DELAY	-10	-10	-10	-11	-11	-11	
N.M.YC DELAY	-8	-8	-8	-9	-9	-7	

MIDDLE ASIA/AFRICA & EAST ASIA

ITEMS	MIDDLE ASIA/AFRICA						EAST ASIA			REMARK
	CIS			EUROPE						
	29"	32"	34"	29"	28"	32"	29"	28"	32"	
P.YC(AV) DELAY	-9	-9	-9	-9	-9	-9	-9	-9	-9	
S.YC(AV) DELAY	-4	-4	-4	-4	-4	-4	-4	-4	-4	
N.YC(AV) DELAY	-8	-8	-8	-8	-8	-8	-8	-8	-8	
P.BG.YC DELAY	-9	-9	-9	-9	-9	-9	-9	-9	-9	
P.DK.YC DELAY	-10	-10	-10	-10	-10	-10	-10	-10	-10	
P.I.YC DELAY	-10	-10	-10	-10	-10	-10	-10	-10	-10	
P.M.YC DELAY	-9	-9	-9	-9	-9	-9	-9	-9	-9	
P.L.YC DELAY	-9	-9	-9	-9	-9	-9	-9	-9	-9	
S.BG.YC DELAY	-6	-6	-6	-6	-6	-6	-6	-6	-6	
S.DK.YC DELAY	-11	-11	-11	-11	-11	-11	-11	-11	-11	
S.I.YC DELAY	-10	-10	-10	-10	-10	-10	-10	-10	-10	
S.M.YC DELAY	-10	-10	-10	-10	-10	-10	-10	-10	-10	
S.L.YC DELAY	-10	-10	-10	-10	-10	-10	-10	-10	-10	
N.M.YC DELAY	-8	-8	-8	-8	-8	-8	-8	-8	-8	

EEPROM Data

ITEMS	Range	CIS			EUROPE			REMARK
		29”	32”	34”	29”	28”	32”	
0	0~3	1	0	0	1	1	1	UP-UCG(up corner semi control)
1	0~3	1	0	0	1	1	1	LO-UCG(low corner semi control)
2	0~3	2	2	2	2	2	2	LTI Mode
3	0~3	1	1	1	1	1	1	System
4		255	255	255	255	255	255	
5		255	255	255	255	255	255	
6	0~100	70	70	70	70	75	70	Dynamic Contrast
7	0~100	50	50	50	50	50	50	Dynamic Brightness
8	0~100	40	40	40	40	60	40	Dynamic Sharpness
9	0~100	60	60	60	60	50	60	Dynamic Color
10	0~100	50	50	50	50	50	50	Dynamic ColorTone
11	0~100	50	50	50	50	50	50	Dynamic Tint
12	0~100	70	70	70	70	60	70	Standard Contrast
13	0~100	50	50	50	50	50	50	Standard Brightness
14	0~100	30	30	30	30	50	30	Standard Sharpness
15	0~100	50	50	50	50	45	50	Standard Color
16	0~100	50	50	50	50	50	50	Standard ColorTone
17	0~100	50	50	50	50	50	50	Standard Tint
18	0~100	50	50	50	50	35	50	Movie Contrast
19	0~100	50	50	50	50	40	50	Movie Brightness
20	0~100	30	30	30	30	40	30	Movie Sharpness
21	0~100	45	45	45	45	40	45	Movie Color
22	0~100	50	50	50	50	50	50	Movie ColorTone
23	0~100	50	50	50	50	50	50	Movie Tint
24		255	255	255	255	255	255	
25		255	255	255	255	255	255	
26		255	255	255	255	255	255	
27		255	255	255	255	255	255	
28		255	255	255	255	255	255	
29		255	255	255	255	255	255	
30	0~255	229	229	229	229	229	229	RGB Bright
31	0~255	171	171	171	171	171	171	RGB Contrast
32	0~255	101	101	101	101	101	101	RGB U

ITEMS	Range	CIS			EUROPE			REMARK
		29”	32”	34”	29”	28”	32”	
33	0~255	36	36	36	36	36	36	RGB V
34	0~255	32	32	32	32	32	32	RGB R Gain
35	0~255	32	32	32	32	32	32	RGB G Gain
36	0~255	32	32	32	32	32	32	RGB B Gain
37	0~255	23	23	23	23	23	23	RGB F/B Gain
38	0~255	168	168	168	168	168	168	Y Gain Adjustment
39	0~255	71	71	71	71	71	71	U Gain Adjustment
40	0~255	65	65	65	65	65	65	V Gain Adjustment
41	0~255	2	2	2	2	2	2	Vertical Slicing Level Adjustment
42	0~255	12	12	12	12	12	12	Vertical Slicing Level Adjustment
43	0~255	63	63	63	63	63	63	
44	0~255	0	0	0	0	0	0	
45	0~255	0	0	0	0	0	0	TTX Sub Brightness value
46	0~255	147	147	147	147	147	147	Left Blanking
47	0~255	153	153	153	153	153	153	Right Blanking
48	0~3	0	0	0	0	0	0	S-ABL
49	0~255	80	48	48	48	48	48	P-ABL
50	0~255	52	52	52	52	52	52	DCTI
51	0~255	136	136	136	136	136	136	Peaking value
52	0~255	200	200	200	200	200	200	PAL sensitive
53	0~255	28	28	28	28	28	28	SECAM sensitive
54	0~3	3	3	3	3	3	3	Picture Limit Level
55	0~15	12	12	12	7	7	7	OSD Bright adjustment(LRGB2_LEV)
56	0~15	5	5	5	3	5	5	TTX Bright adjustment(LRGB2_LEV)
57	0~255	255	255	255	255	255	255	
58	0~255	255	255	255	255	255	255	
59	0~255	255	255	255	255	255	255	
60	0~255	255	255	255	255	255	255	
61	0~3	255	255	255	255	255	255	
62	0~3	255	255	255	255	255	255	
63	0~255	255	255	255	255	255	255	
64	0~255	255	255	255	255	255	255	
65	0~3	255	255	255	255	255	255	

ITEMS	Range	CIS			EUROPE			REMARK
		29”	32”	34”	29”	28”	32”	
66	0~3	255	255	255	255	255	255	
67	0~255	39	39	39	39	39	38	TTX V Position
68	0~255	186	186	186	186	186	190	TTX H Position
69	0~255	255	255	255	255	255	255	
70	0~255	255	255	255	255	255	255	
71	0~255	0	0	0	0	0	0	Wide model 4:3 mode H-PAR offset
72	0~255	85	85	85	85	85	85	VSP9402 NR-ON
73	0~255	85	85	85	85	85	85	
74	0~255	170	170	170	170	170	170	
75	0~255	170	170	170	170	170	170	
76	0~255	68	68	68	68	68	68	VSP9402 NR-OFF
77	0~255	68	68	68	68	68	68	
78	0~255	34	34	34	34	34	34	
79	0~255	34	34	34	34	34	34	
80	0~255	215	215	215	215	215	215	
81	0~255	1	1	1	1	1	1	
82	0~255	0	0	0	0	0	0	

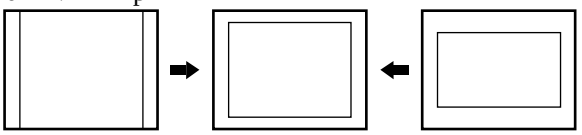
ITEMS	Range	MIDDLE ASIA/AFRICA						EAST ASIA			REMARK
		RCA MODEL			SCART MODEL						
		29”	32”	34”	29”	32”	34”	29”	32”	34”	
0	0~3	1	0	0	1	0	0	1	1	1	UP-UCG(up corner semi control)
1	0~3	1	0	0	1	0	0	1	1	1	LO-UCG(low corner semi control)
2	0~3	2	2	2	2	2	2	2	2	2	LTI Mode
3	0~3	1	1	1	1	1	1	1	1	1	System
4		255	255	255	255	255	255	255	255	255	
5		255	255	255	255	255	255	255	255	255	
6	0~100	100	100	100	100	100	100	100	100	100	Dynamic Contrast
7	0~100	50	50	50	50	50	50	50	50	50	Dynamic Brightness
8	0~100	60	60	60	60	60	60	60	60	60	Dynamic Sharpness
9	0~100	60	60	60	60	60	60	60	60	60	Dynamic Color
10	0~100	50	50	50	50	50	50	50	50	50	Dynamic ColorTone
11	0~100	50	50	50	50	50	50	50	50	50	Dynamic Tint
12	0~100	70	70	70	70	70	70	70	60	70	Standard Contrast
13	0~100	50	50	50	50	50	50	50	50	50	Standard Brightness
14	0~100	50	50	50	50	50	50	50	50	50	Standard Sharpness
15	0~100	50	50	50	50	50	50	50	50	50	Standard Color
16	0~100	50	50	50	50	50	50	50	50	50	Standard ColorTone
17	0~100	50	50	50	50	50	50	50	50	50	Standard Tint
18	0~100	40	40	40	40	40	40	40	40	40	Movie Contrast
19	0~100	50	50	50	50	50	50	50	50	50	Movie Brightness
20	0~100	40	40	40	40	40	40	40	40	40	Movie Sharpness
21	0~100	45	45	45	45	45	45	45	45	45	Movie Color
22	0~100	50	50	50	50	50	50	50	50	50	Movie ColorTone
23	0~100	50	50	50	50	50	50	50	50	50	Movie Tint
24		255	255	255	255	255	255	255	255	255	
25		255	255	255	255	255	255	255	255	255	
26		255	255	255	255	255	255	255	255	255	
27		255	255	255	255	255	255	255	255	255	
28		255	255	255	255	255	255	255	255	255	
29		255	255	255	255	255	255	255	255	255	
30	0~255	251	251	251	229	229	229	251	251	251	RGB Bright
31	0~255	177	177	177	171	171	171	177	177	177	RGB Contrast
32	0~255	230	230	230	101	101	101	230	230	230	RGB U

ITEMS	Range	MIDDLE ASIA/AFRICA						EAST ASIA			REMARK
		RCA MODEL			SCART MODEL						
		29”	32”	34”	29”	32”	34”	29”	32”	34”	
33	0~255	38	38	38	36	36	36	38	38	38	RGB V
34	0~255	32	32	32	32	32	32	32	32	32	RGB R Gain
35	0~255	32	32	32	32	32	32	32	32	32	RGB G Gain
36	0~255	32	32	32	32	32	32	32	32	32	RGB B Gain
37	0~255	23	23	23	23	23	23	23	23	23	RGB F/B Gain
38	0~255	168	168	168	168	168	168	168	168	168	Y Gain Adjustment
39	0~255	71	71	71	71	71	71	71	71	71	U Gain Adjustment
40	0~255	65	65	65	65	65	65	65	65	65	V Gain Adjustment
41	0~255	2	2	2	2	2	2	2	2	2	Amplifier Current Setting of Oscillator Pad
42	0~255	12	12	12	12	12	12	12	12	12	Vertical Sync Lowpass-Filter Adjustment
43	0~255	63	63	63	63	63	63	63	63	63	Vertical Slicing Level Adjustment(06~04bit)
44	0~255	0	0	0	0	0	0	0	0	0	
45	0~255	235	235	235	235	235	235	235	235	235	TTX Sub Brightness value
46	0~255	147	147	147	147	147	147	147	147	147	Left Blanking
47	0~255	153	153	153	153	153	153	153	153	153	Right Blanking
48	0~3	0	0	0	0	0	0	0	0	0	S-ABL
49	0~255	80	80	80	80	80	80	80	80	80	P-ABL
50	0~255	52	52	52	52	52	52	52	52	52	DCTI
51	0~255	136	136	136	136	136	136	136	136	136	Peaking value
52	0~255	200	200	200	200	200	200	200	200	200	PAL sensitive
53	0~255	28	28	28	28	28	28	28	28	28	SECAM sensitive
54	0~3	3	3	3	3	3	3	3	3	3	Picture Limit Level
55	0~15	12	12	12	12	12	12	12	12	12	OSD Bright adjustment(LRGB2_LEV)
56	0~15	5	5	5	5	5	5	5	5	5	TTX Bright adjustment(LRGB2_LEV)
57	0~255	255	255	255	255	255	255	255	255	255	
58	0~255	255	255	255	255	255	255	255	255	255	
59	0~255	255	255	255	255	255	255	255	255	255	
60	0~255	255	255	255	255	255	255	255	255	255	
61	0~3	255	255	255	255	255	255	255	255	255	
62	0~3	255	255	255	255	255	255	255	255	255	
63	0~255	255	255	255	255	255	255	255	255	255	
64	0~255	255	255	255	255	255	255	255	255	255	
65	0~3	255	255	255	255	255	255	255	255	255	

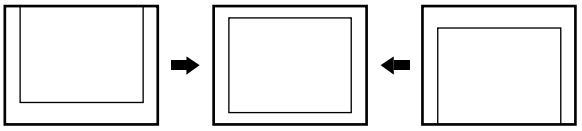
ITEMS	Range	MIDDLE ASIA/AFRICA						EAST ASIA			REMARK
		RCA MODEL			SCART MODEL						
		29”	32”	34”	29”	32”	34”	29”	32”	34”	
66	0~3	255	255	255	255	255	255	255	255	255	
67	0~255	39	39	39	39	39	38	39	39	38	TTX V Position
68	0~255	186	186	186	186	186	190	186	186	190	TTX H Position
69	0~255	255	255	255	255	255	255	255	255	255	
70	0~255	255	255	255	255	255	255	255	255	255	
71	0~255	0	0	0	0	0	0	0	0	0	Wide model 4:3 mode H-PAR offset
72	0~255	85	85	85	85	85	85	85	85	85	VSP9402 NR-ON
73	0~255	85	85	85	85	85	85	85	85	85	
74	0~255	170	170	170	170	170	170	170	170	170	
75	0~255	170	170	170	170	170	170	170	170	170	
76	0~255	68	68	68	68	68	68	68	68	68	VSP9402 NR-OFF
77	0~255	68	68	68	68	68	68	68	68	68	
78	0~255	34	34	34	34	34	34	34	34	34	
79	0~255	34	34	34	34	34	34	34	34	34	
80	0~255	215	215	215	215	215	215	215	215	215	
81	0~255	1	1	1	1	1	1	1	1	1	
82	0~255	0	0	0	0	0	0	0	0	0	

1-4 Screen Change(I²C Bus Geometric Adjustment)

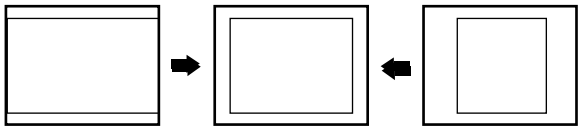
0 V - Amp



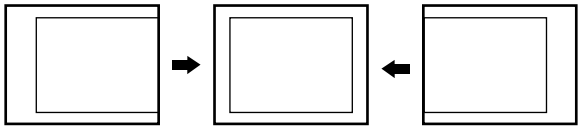
1 V-Shift



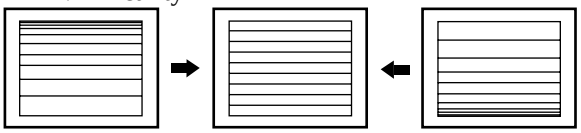
2 H-EW



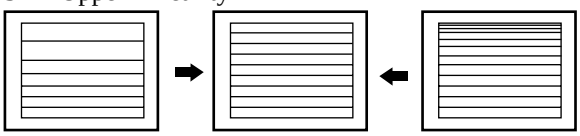
3 H-Shift



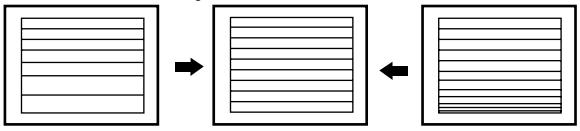
4 V-Linearity



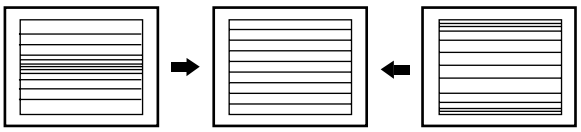
5 Upper Linearity



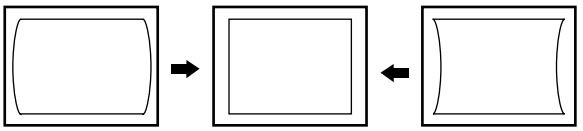
6 Low Linearity



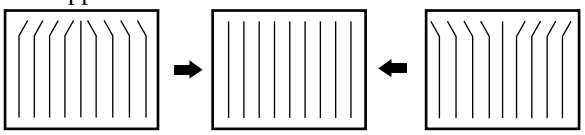
7 V SC



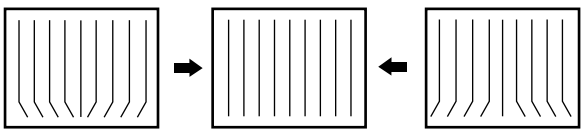
8 H-Parabola



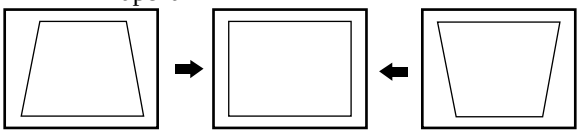
9 Upper Coner



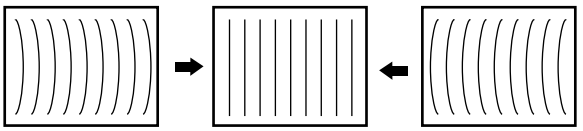
10 Low Coner



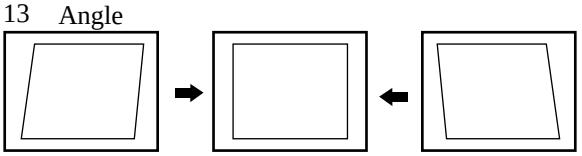
11 H- Trapezuim



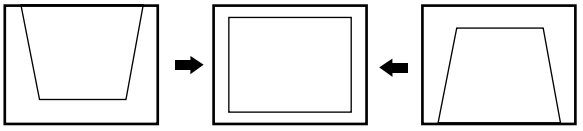
12 Bow



13 Angle



14 V Position



MEMO